



Sequence Listing

<110> Lin, Ching-Yu
Lin, Ruey-Wen
You, Chiou-Mien
Huang, Hsing-Hsuan
Lee, Bor-Heng
Lee, Hsien-Hsiung
Lin, Yu-Ju
Fan, Chih-Chun
Hsu, Han-Chuan
Shih, Chia-Wen
Yeh, Chih-Hsing
Kao, Yi-Feng
Pan, Chih-Long
Chan, Peter

<120> METHOD AND DETECTOR FOR IDENTIFYING SUBTYPES OF HUMAN PAPILLOMA VIRUSES

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<400> 429

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<400> 430

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g a c a t t a t g t	g c a t c c g t a a	c t a c a t c t t c	c a c a t a c a c c	a a t t c t g a t t	a t t a a g a g t a	120
c a t g c g t c a t	g t g g a a g a g t	a t g a t t a c a	a t t t a t t t t t	c a a t t a t g t a	g c a t t a c a t t	180
g t c t g c t g a a	g t a a t g g c c t	a t a t t c a c a c	a a t g a a t c c c	t c t g t t t g g	a a g a c t g g a a	240
c t t t g g g t t a	t c g c c t c c c c	c a a t g g t a c	a t t a g a a g a t	a c c t a t a g g t	a t g t g c a g t c	300
a c a g g c c a t t	a c c t g t c a a a	a g c c c a c t c c	t g a a a a g g a a	a a g c c a g a t c	c c t a t a a g g a a	360
c c t t a g t t t t t	t g g g a g g t t a	a t t t a a a a g a	a a a g t t t t c t	a g t g a a t t g		409

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<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 11 (6727-7135/409 bp)

<400> 431

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gacactatgt gcacatgtgt ctaaatctgc tacatacact aattcagatt ataaggaaata 120
catgcgccat gtggaggagt ttgatttaca gtttattttt caattgtgta gcattacatt 180
atctgcagaa gtcatggcct atatacacac aatgaatcct tctgttttgg aggactggaa 240
ctttggttta tcgcctccac caaatggtac actggaggat acttataagat atgtacagtc 300
acaggccatt acctgtcaga aacccacaccc tgaaaaagaa aaacaggatc cctataagga 360
tatgagttt tggaggtta acttaaaaga aaagtttca agtgaattta 409

<210> 432

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype 16 (6602-7013/412 bp)

<400> 432

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gtcattatgt gctgccatat ctacttcaga aactacatata aaaaatacta actttaagga 120
gtacctacga catggggagg aatatgattt acagtttatt tttcaactgt gcaaaataac 180
cttaactgca gacgttatga catacataca ttctatgaat tccactatggaggactg 240
gaatttttgtt ctacaacctc ccccaggagg cacactagaa gatacttata ggtttgtaac 300
ccaggcaatt gcttgtcaaa aacatacaccc tccagcacct aaagaagatg atccccttaa 360
aaaatacact ttttggaaag taaatttaaa ggaaaagttt tctgcagacc ta 412

<210> 433

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 18 (6587-6992/415 bp)

<400> 433

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aacaatatgt gcttctacac agtctccgtt acctgggcaa tatgtatgcta ccaaatttaa 120

gcagtatgc agacatgtt aggaatatga tttgcagttt attttcagt tgtgtactat 180
tactttaact gcagatgtt tgcctatat tcatagtatg aatagcagta ttttagagga 240
ttggaaactt ggtgttcccc ccccccac tactagttt gttggatacat atcggtttgt 300
acaatctgtt gctattacct gtcaaaagga tgctgcaccg gctgaaaata aggatcccta 360
tgataagtta aagtttgga atgtggattt aaaggaaaag tttcttttag actta 415

<210> 434

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 26 (6553-6967/415 bp)

<400> 434

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taccattagt acattatctg cagcatctgc atccactcca tttaaaccat ctgattataa 120
acaatttata agacatggcg aagaatatga attacaattt atatttcagt tgtgtaaaat 180
aacacttaca acagatgtt tggcttacat acatthaatg aatgcctcca tattggagga 240
ttggaaattt ggactaacct taccccccac tgctagttt gaaagatgcct ataggtttat 300
taaaaaactct gctactacct gtcagcgtaa cggccctcct gtgc当地aaagg aagatccttt 360
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<210> 435

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype 31 (6520-6931/412 bp)

<400> 435

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gtctgtttgt gctgcaattt caaacagtga tactacattt aaaagtagta attttaaaga 120
gtattttaaga catggtgagg aatttgattt acaatttata ttctagttt gcaaaataac 180
attatctgca gacataatga catatattca cagtagaat cctgttattt tggaaagattt 240
gaatttttggg ttgaccacac ctccctcagg ttctttggag gatacctata ggtttgcac 300
ctcacaggcc attacatgtc aaaaaactgc ccccaaaaag cccaaaggaaag atccatttt 360
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<210> 436
<211> 409
<212> DNA
<213> Human Papilloma Virus subtype 32 (6837-7245/409 bp)

<400> 436

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tctacgccat gcagaggaat atgatataca gtttatattt caattgtgca aaattacatt 180
atctgttagag gttatgtcat atatccacac catgaatcct gacatactag acgattggaa 240
tggtgggtga gctccaccgc cctctggta tttagaagat agttatagat ttgtgcagtc 300
tcagggccata cgatgtcaag ctaaggtAAC agcacctgaa aaaaaggatc ctttttctga 360
ctattcattt tgggaagtaa atttatctga aaagtttct agtgattta 409

<210> 437
<211> 409
<212> DNA
<213> Human Papilloma Virus subtype 33 (6559-6967/409 bp)

<400> 437

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gactttatgc acacaagtaa ctatgtacag tacatataaa aatgaaaatt ttaaagaata 120
tataagacat gttgaagaat atgatctaca gttgtttt caactatgca aagttacctt 180
aactgcagaa gttatgacat atattcatgc tatgaatcca gatatttag aagattggca 240
atttggttta acaccccttc catctgctag tttacaggat acctataggt ttgttacctc 300
tcaggctatt acgtgtcaaa aaacagtacc tccaaaggaa aaggaagacc ccttaggtaa 360
atacacattt tgggaagttgg atttaaagga aaaatttca gcagattta 409

<210> 438
<211> 412
<212> DNA
<213> Human Papilloma Virus subtype 35 (6542-6953/412 bp)

<400> 438

<210> 439

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 37 (6711-7125/415 bp)

<400> 439

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ttcttattgt gtgtctactg acaatggcga agttacagaa tataattctc aaacactcag	120
agaataaccta agacatgtt aagaatacca gctttcaatt attttacaac tttgtaaagt	180
tcctttaaag gctgagggtt taactcagat aaatgcaatg aattctggta tattggaaga	240
gtggcaat tttttttttt ggatttgtac ctactccaga taattcagta catgaccc ttatgtacat	300
taattcaaag gctaccaagt gtcctgatgc agttgtt gaa aaagaaaagg aagatccctt	360
tgccaaatat acat ttttgg a atgttagattt aactgaaaaa ttatcatgg attta	415

<210> 440

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 39 (6605-7017/415 bp)

<400> 440

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ggaatataacc aggcacgtgg aggagtatga tttacaattt atatttcaac tgtgtactgt 180
cacattaaca actqatqta tqtcttatat tcacactatg aattcctcta tattggacaa 240

ttggaatttt gctgtagctc ctccaccatc tgccagttg gtagacactt acagataacct 300
acagtctgca gccattacat gtcaaaagga tgctccagca cctgaaaaga aagatccata 360
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<210> 441

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 42 (6802-7210/409 bp)

<400> 441

tatatgttgg ggaaatcagc tatttttaac tgtggttgat actacccgta gtactaacat 60
gactttgtgt gccactgcaa catctggta tacatataca gctgctaatt ttaaggaata 120
tttaagacat gctgaagaat atgatgtgca atttatattt caattgtgta aaataacatt 180
aactgttcaa gttatgtcat atatacacaa tatgaatcct aacatattag aggagtggaa 240
tgttgggttt gcaccaccac cttcaggaac tttagaagat agttataaggt atgtacaatc 300
agaagctatt cgctgtcagg ctaaggtaac aacgccagaa aaaaaggatc cttattcaga 360
cttttggttt tgggaggtaa atttatctga aaagtttct actgattta 409

<210> 442

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 43 (21-435/415 bp)

<400> 442

catttgtttt ggaaatcagt tgttgttac agtggtagat accactcgta gtacaaacct 60
gacgttatgt gcctctactg accctactgt gcccagtaca tatgacaatg caaagttaa 120
ggaataacttg cggcatgtgg aagaatatga tctgcagttt atattcaat tatgcataat 180
aacgctaaac ccagaggtta tgacatatat tcatactatg gatcccacat tattagagga 240
ctggaatttt ggtgtgtccc cacctgcctc tgcttcttg gaagatactt atcgctttt 300
gtctaacaag gccattgcat gtcaaaaaaa tgctcccca aaggAACGGG aggatcccta 360
taaaaaagtat acattttggg atataaatct tacagaaaag ttttctgcac aactt 415

<210> 443

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 44 (6647-7061/415 bp)

<400> 443

tatttgttgg ggaaatcagt tatttgtac tgttgttagat actacccgta gtacaaacat	60
gacaatatgt gctgccacta cacagtcggcc tccgtctaca tatacttagt aacaatataa	120
gcaatacatg cgacatgttg aggagtttga cttacaattt atgtttcaat tatgttagtat	180
taccttaacg gcggaggtaa tggcctatct tcatactatg aatgctggta ttttagaaca	240
gtggaacttt ggggtgtcgc cgcccccaaa tggtacctt aaggacaaaat acagatatgt	300
gcagtcggcag gccattacat gtcaaaagcc accccctgaa aaggcaaagc aggaccccta	360
tgcaaaaattt agttttggg aggtggatct tagagaaaag ttttctagtg agttt	415

<210> 444

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 45 (6582-6996/415 bp)

<400> 444

tatttgttgg cataatcagt tgtttgttac tgttagtggac actacccgca gtactaattt	60
aacattatgt gcctctacac aaaatccgtt gccaagtaca tatgacccta ctaagttaa	120
gcagttatgtt agacatgtgg aggaatatga tttacagttt atttttcagt tgtgcactat	180
tactttaact gcagaggtta tgtcatatat ccatagttat aatagtagta tattagaaaa	240
tttggaaatttt ggtgtccctc caccacccatc tacaagtttgc gtggatacat atcgtttgc	300
gcaatcagtt gctgttacccgtt gtcaaaaagga tactacacccgtt ccagaaaagc aggttccatata	360
tqataaaatattt aagttttggatgttgcctt aaaggaaaaaa ttttcctccgtt attttgc	415

<210> 445

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype 51 (6486-6897/412 bp)

<400> 445

cattgctgg aacaatcagc ttttattac ctgtgttgc actaccagaa gtacaaattt 60
aactattagc actgccactg ctgcggttc cccaacattt actccaagta actttaagca 120
atatattagg catgggaaag agtatgaatt gcaatttattt tttcaattat gtaaaattac 180
tttaactaca gaggtaatgg cttattaca cacaatggat cctaccattc ttgaacagtg 240
gaattttgga ttaacattac ctccgtctgc tagttggag gatgcatata ggtttggtag 300
aaatgcagct actagctgac aaaaggacac ccctccacag gctaagccag atcctttggc 360
caaataaaaaa ttttggatg ttgattaaa ggaacgattt tcttagatt ta 412

<210> 446

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 52 (6623-7031/409 bp)

<400> 446

catatgttgg ggcaatcagt tgttgtcac agttgtggat accactcgta gcactaaca 60
gactttatgt gctgaggta aaaaggaaag cacatataaa aatgaaaatt ttaaggaata 120
ccttcgtcat ggcgaggaat ttgatttaca atttattttt caattgtca aaattacattt 180
aacagctgat gttatgacat acattcataa gatggatgcc actattttag aggactggca 240
atttggcctt accccaccac cgtctgcatac tttggaggac acatacagat ttgtcacttc 300
tactgctata acttgtcaaa aaaacacacc acctaaagga aaggaagatc cttaaagga 360
ctatatgttt tgggaggtgg atttaaaaaga aaagtttct gcagattt 409

<210> 447

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 53 (6614-7022/409 bp)

<400> 447

catctgttgg aacaatcagt tatttgcatac tggtgtggat accaccagga atacaaacat 60
gactcttcc gcaaccacac agtctatgac tacatataat tcaaagcaaa ttaaacagta 120
tgtagacat gcagaggaat atgaattaca atttgcgttt caactatgta aaatatccct 180
gtctgctgag gttatggcctt atttacatac tatgaattct accttactgg aagactggaa 240
tataggtttg tcgcctcctg ttgccactag cttagaggac aaatacagat atgtgaaaag 300
tgcagctata acctgtcaaa aggatcagcc ccctcctgaa aagcaggacc cactatctaa 360

atataaattt tgggagggtca atttgcaaaa cagttttct gctgattt 409

<210> 448

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype 54 (6561-6972/412 bp)

<400> 448

tatttgttgg ggcaatcagg tgttttaac agttgttagat accacccgta gtactaacct 60
aacattgtgt gctacagcat ccacgcagga tagcttaat aattctgact ttagggagta 120
tattagacat gtggaggaat atgatttaca gtttatattt cagttatgta ccataaccct 180
tacagcagat gttatggct atattcatgg aatgaatccc actattctag aggactggaa 240
ctttggtata acccccccag ctacaagtag tttggaggac acatataggc ttgtacagtc 300
acaggccatt gcatgtcaaa agaataatgc ccctgcaaag gaaaaggagg atccttacag 360
taaatttaat ttttggactg ttgaccttaa ggaacgattt tcatctgacc tt 412

<210> 449

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 55 (6647-7061/415 bp)

<400> 449

tatttgttgg gggaatcagt tatttgttac tggtgttagat actacacgta gtacaaacat 60
gacaatatgt gctgctacaa ctcagtctcc atctacaaca tataatagta cagaatataa 120
acaatacatg cgacatgttgc aggagtttga cttacagttt atgtttcaat tatgttagtat 180
taccttaact gctgaggtaa tggcctattt acataccatg aatcctggta ttttggaaaca 240
gtgaaacttt gggttgtcgc caccggaaa tggtacctta gaagacaaat acagatatgt 300
gcagtcacag gccattacat gtcaaaagcc tccccctgaa aaggcaaagc aggaccccta 360
tgcaaaattt agtttttttttggg aggttagatct cagagaaaaag ttttcttagtg agtta 415

<210> 450

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 56 (6559-6967/409 bp).

<400> 450

catttgctgg ggtaatcaat tatttggtaac tggtagtagat actactagaa gtactaacat 60
gactattagt actgctacag aacagttaag taaatatgat gcacgaaaaa ttaatcagta 120
ccttagacat gtggaggaat atgaattaca atttggttt caattatgca aaattactt 180
gtctgcagag gttatggcat atttacataa tatgaatgct aacctactgg aggactggaa 240
tattgggtt accccggccag tggccaccag cctagaagat aaatatagat atgttagaag 300
cacagctata acatgtcaac gggAACAGCC accaACAGAA aaACAGGACC cattagctaa 360
atataaattt tgggatgtt aacttacagga cagttttct acagacctg 419

<210> 451

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 58 (6608-7016/409 bp)

<400> 451

catttgctgg ggcaatcagt tatttggtaac cgtgggttgc accactcgta gcactaatat 60
gacattatgc actgaagtaa ctaaggaagg tacatataaa aatgataatt ttaaggaata 120
tgtacgtcat gttgaagaat atgacttaca gtttggttt cagcttgca aaattacact 180
aactgcagag ataatgacat atatacatac tatggattcc aatattttgg aggactggca 240
atttgggtt aacaccccttc cgtctgccag tttacaggac acatataagat ttgttacctc 300
ccaggctatt acttgccaaa aaacagcacc ccctaaagaa aaggaagatc cattaaataa 360
atatacttt tgggaggtt aacttacagga aaagttttct gcagatcta 409

<210> 452

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 59 (6571-6985/415 bp)

<400> 452

tatatgttgg cacaatcaat tgtttttaac agttgttagat actactcgca gcaccaatct 60
ttctgtgtgt gcttctacta cttcttctat tcctaatgta tacacaccta ccagttttaa 120

agaatatgcc agacatgtgg aggaatttga tttgcagttt atatttcaac tgtgtaaaaat	180
aacattaact acagaggtaa tgtcatacat tcataatatg aataccacta ttttggagga	240
ttggaatttt ggtgttacac cacccctac tgctagttt gttgacacat accgtttgt	300
tcaatctgct gctgtaactt gtcaaaagga caccgcaccg ccagttaaac aggaccctta	360
tgacaaacta aagttttggc ctgttagatct taaggaaagg ttttctgcag atctt	415

<210> 453

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 61 (6732-7146/415 bp)

<400> 453

tatttgttgg ttaatgaat tgtttgaac cgttgtggat accacccgca gtactaattt	60
aaccatttgt actgctacat ccccccgt atctgaatat aaagccacaa gctttaggga	120
atatttgcgc catacagagg agtttgattt gcaatttatt tttcagttat gtaaaataca	180
tttaaccctt gaaattatgg cctacctaca taatatgaat aaggccttgt tggatgactg	240
gaacttttgt gtggtaccac caccctctac cagtttagaa gacacatata ggttttgca	300
gtccagagct attacatgtc agaagggtgc tgctgccccg ccgccccagg aggatcgcta	360
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<210> 454

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 62 (21-429/409 bp)

<400> 454

<210> 455
<211> 409
<212> DNA
<213> Human Papilloma Virus subtype 66 (6609-7017/409 bp)

<400> 455

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ccttcgccccat gtggaggaat atgaactaca gtttgtgtt caactttgtt aaataaacctt	180
aactgcagaa gttatggcat atttgcataa tatgaataat acttttattag acgattggaa	240
tattggctt tccccaccag ttgcaactag ctttagaggat aaatataaggat atattaaaag	300
cacagctatt acatgtcaga gggAACAGCC ccctgcagaa aagcaggatc ccctggctaa	360
atataagttt tggaaagtta atttacagga cagctttct gcagacctg	409

<210> 456

<211> 409

<212> DNA

<213> Human Papilloma Virus subtype 67 (6584-6992/409 bp)

<400> 456

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gactttatgt tctgaggaaa aatcagaggc tacatacaaa aatgaaaact ttaaggaata	120
ccttagacat gtggagaat atgatttgcg gtttatattt cagctgtgcg aaatatccct	180
tactgcaaat gttatgcaat acatcacac catgaatcca gatattttttt aggactggca	240
atttggcctt acaccaccc tcgttggat tttacaggac acatataatgtt ttgttaccc	300
gcaggctatt acctgtcaaa aaacatcccc tccaaacagca aaggaagatc ctctaaaaaa	360
gtacagtttt tggaaatca attttaaggaa aaaattttct gcagatttta	409

<210> 457

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 68 (2582-2996/415 bp)

<400> 457

tatttgttgg cataatcaat tatttcttac tgggtggat accactcgca gtaccaattt 60
tactttgtct actactactg aatcagctgt accaaatatt tatgatccta ataaattttaa 120
ggaatataatt aggcattgttgg aggaatatga tttgcaattt atatttcaat tgggtactat 180
aacattgtcc actgatgtaa tgtcctatat acatactatg aatcctgcta ttttggatga 240
tttggatattt ggtgttgcctt ctccaccatc tgctagtctt gtagatacat accgctatct 300
gcaatcagca gcaattacat gtcaaaaaga cgccctgca cctactaaaa aggatccata 360
tgatggctta aacttttggaa atgtttttttt aaaggaaaag ttttagttctg aactg 415

<210> 458

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 69 (6509-6923/415 bp)

<400> 458

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cactattagt actgttatctg cacaatctgc atctgccact tttaaaccat cagattataaa 120
gcagtttata aggcattgttgg aggaatatga attacagttt atatttcaat tgggtaaaat 180
tactcttacc actgatgtaa tggcctatat ccatacaatg aattctacta ttttggaaaa 240
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taaaaattca gctactacat gtcaacgcga tgccctgca cagcccaagg aggatccattt 360
tagtaaattta aaattttgggg acgtttagtct taaagaaaaag ttttcttatttgg attta 415

<210> 459

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 70 (6549-6963/415 bp)

<400> 459

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ggaatataact aggcattgttgg aggaatatga tttacaattt atatttcaat tgggtactat 180
cacattaact gctgacgttta tggcctacat ccatactatg aatcctgcaa ttttggacaa 240

ttggaatata ggagttaccc ctccaccatc tgcaagcttg gtggacacgt ataggtattt 300
acaatcagca gctatagcat gtcaaaagga tgctcctaca cctgaaaaaaaaa aggatcccta 360
tgacgattta aaattttgga atgttgattt aaaggaaaag ttttagtacag aacta 415

<210> 460

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 72 (6758-7172/415 bp)

<400> 460

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cttaactcct gaaattatgg cctacttgca caatatgaat aaggccttat tggatgactg 240
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gtctcggtcc attacctgtc aaaagggggc tgccacccct cctctaaag aagatccata 360
tgctaactta tccttttggaa ctgtggattt aaaggacaaa ttttccactg acttg 415

<210> 461

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 74 (1613-2027/415 bp)

<400> 461

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acaatacatg cgacatgtgg aggaatttga tttgcaattt attttcaat tatgtgttat 180
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gcagtcggcag gctattacat gtcaaaaacc tacgcctgat aaagcaaagc ccaatcccta 360
tgcaaattta agtttttggg aagttaatct taaggaaaag ttttcttagtg aatta 415

<210> 462

<211> 415

<212> DNA

<213> Human Papilloma Virus subtype 82 (6536-6950/415 bp)

<400> 462

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cactttaact	actgaaattta	tggcttacct	gcacaccatg	gattctacaa	ttttagaaca	240
gtgaaatttt	ggattaacat	tgccccccctc	cgctagtttgc	gaggatgcct	atcgatttgt	300
aaaaaaatgca	gcaacatcct	gtcacaagga	cagtccctcca	caggctaaag	aagacccttt	360
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<210> 463

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype CP8061 (21-432/412 bp)

<400> 463

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tttgagacat	ggagaagaat	ttgatttgc	atttatattt	caactatgtg	ttattaattt	180
aacagctgaa	attatggcct	acttacatcg	catggatgct	acattactgg	aggactggaa	240
tttttggttc	ttaccacctc	ctactgctag	tcttggtgat	acctaccgct	ttttacagtc	300
tcaggccata	acctgtcaga	aaaacagtcc	tcctcctgca	gaaaaaaagg	acccctatgc	360
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<210> 464

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype CP8304 (21-432/412 bp)

<400> 464

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tctgcgcctt acagaggaat atgatttgc gtttattttc caattatgtt aaatacagtt	180
aacaccagaa attatggcct acttacataa tatgaacaag gcactgttgg atgattggaa	240
ttttggtgtt ttgccacctc cttccaccag ttttagatgac acatatcgct ttttacagtc	300
tcgggcccatt acctgtcaaa agggtgctgc tgccccctgcg cccaaagagg acccttatgc	360
cgacatgtca tttggacag ttgacctaa ggacaagttg tctactgatt tg	412

<210> 465
<211> 350
<212> DNA
<213> Human Papilloma Virus subtype L1AE5 (11-360/350 bp)

<400> 465

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cacgccccatgt agaggaatat gatttacaat ttatatttca attgtgtaaa attacactta 180
ctactgtatgt tatgtcttat atacataaca tggatcctac tatttttagat agttggatt 240
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<210> 466
<211> 415
<212> DNA
<213> Human Papilloma Virus subtype MM4 (21-435/415 bp)

<400> 466

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gcaatacattt aggcatgggg aagaatatga attgcaattt atatttcaat tggtaaaaat	180
cactttaactt actgaaatattt tggcttacactt gcacaccatg gattctacaa tttagaaca	240
gtggaattttt ggattaacctt tgccccctc agctagttt gaggatgcctt atcgattttgt	300
aaaaaaatgca gcaacatcctt gtcacaagga cagtcctcca caggctaaac aagacccttt	360
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<210> 467

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype MM7 (21-432/412 bp)

<400> 467

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cctccgcccac accgaggaat atgacttaca gtttatattg caacttgca aaatacatct	180
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ttttggcgtg ttaccaccc tcaccaccag ctttgatgat acctatcgct atctgcagtc	300
ccgtgctatt acctgccaaa agggtccttc cgcccctgcc cctaaaaagg atccttatga	360
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<210> 468

<211> 412

<212> DNA

<213> Human Papilloma Virus subtype MM8 (21-432/412 bp)

<400> 468

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cctaagacat gtggaggaat atgatttgca gtttatattc cagttgtgtaa aggtccgtct	180
gactccagag gtcatgtcct attacatac tatgaatgac tccttattag atgagtggaa	240
ttttgggttt gtcccccttc cttccacaag ttttagatgat acctataatgtt acttgcagtc	300
tgcgcgcatt acttgccaaa agggggccgc cgccgccaag cctaaaggaaatccttatgc	360
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<210> 469

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

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15

<210> 470

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 470

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20

<210> 471

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 471

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21

<210> 472

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 472

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